

SECTION 13 34 19

ENGINEERED CANOPY SYSTEM

11/11

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

1.1.1 Quality Assurance

- A. Engineered Canopy System manufacturer shall have a minimum of 10 years in business under the same company name with experience producing covers/canopies with welded bents and of the type specified.
- B. Installer Qualifications: Minimum 5 years experience in erecting covers/canopies of the type specified.
- C. All materials shall be delivered to the job site on trucks that are directly owned and operated by the Canopy System manufacturer.

1.2 SYSTEM DESCRIPTION

Pre-Engineered Metal Canopy System shall be pre-engineered and prefabricated using only the highest quality materials available. Engineered Canopy System shall be constructed of all aluminum members and have geometry indicated in the drawings. Engineered Canopy System shall have a complete perimeter guttering system designed to drain to external aluminum downspouts and dispersement at grade.

1.3 PERFORMANCE REQUIREMENTS

Design, fabricate, and erect the canopy system to withstand loads from winds, gravity, and structural movement, and resist in-service use without failure. Design members to withstand stresses resulting from combinations of loads that produce maximum allowable stresses prescribed MBMA Design Practices Manual and 2012 IBC or as specified.

- A. Columns, Beams, Struts, Gutter Beams, Deck, and Trim: Aluminum extrusions.
- B. Structural Framing: Interlocking deck sections roll locked and secured by screws.
  - 1. Mechanically fastened bents using internally concealed bolted connections.
- C. Canopy: Self-draining from deck through bents to discharge point at ground level or as otherwise shown.
- D. Covers shall be all extruded aluminum system complete with internal drainage in flat canopy configurations with roll lock roof deck components as indicated on the drawings. Roll form, wedge locked or crimped deck is not permitted.
- E. Building Code: IBC 2012
- F. Design Loads:
  - 1. Comply with Building Code for site location.

2. Collateral Loads: Additional loads imposed by other materials or systems identified in contract documents.

G. Structural Design: All protective covers, including columns, deck, foundations and attachments to the concrete loading dock, apron, slabs/foundations, shall be specifically designed by an independent Florida Registered Structural Engineer. All such design and submittals shall provide for all loads as indicated on the drawings, shall be signed and sealed by an independent Florida registered structural engineer, and shall conform to the requirements as set forth by the State of Florida department of Professional Regulation Board of Professional Engineers relating to "Specialty Engineers".

#### 1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

##### SD-01 Preconstruction Submittals

Manufacturer's Qualifications; G, RO

##### SD-02 Shop Drawings

Detail Drawings; G, RO

Shop Drawings: Layout and erection drawings showing roof framing, deck panels, cross sections, and trim details, clearly indicating proper assembly. Detailed shop drawings shall be submitted, sealed by an independent Florida Registered Structural Engineer currently licensed to practice in the state of Florida. Shop drawings must be submitted by approved manufacturer. Submittals from manufactures not approved prior to bid will not be accepted.

Submit for review and approval engineering calculations prepared by an independent engineer registered in the state of Florida verifying that all canopy components and footings meet load requirement specified herein and in the drawings as required by FBC 2012 for the location of the project. Letter of compliance without project specific back up engineering calculation is not acceptable.

Erection Plan; G, RO

##### SD-03 Product Data

Manufacturer's Catalog Data; G, RO

##### SD-04 Samples

Coil Stock, 12 inches long by the actual panel width; G, RO

Roof Panels, 12 inches long by actual panel width; G, RO

Fasteners; G, RO

Metal Closure Strips 10 inches long of each type; G, RO

Manufacturer's Color Charts and Chips, 4 by 4 inches; G, RO

SD-05 Design Data

Manufacturer's Descriptive and Technical Literature; G, RO

SD-06 Test Reports

Test Reports; G, RO

Coatings and Base Metals; G, RO

Factory Color Finish Performance Requirements; G, RO

SD-07 Certificates

System Components; G, RO

Coil Stock Certification; G, RO

Repair Paint; G, RO

Qualification of Manufacturer; G, RO

SD-08 Manufacturer's Instructions

Installation of Canopy System; G, RO

Shipping, Handling, and Storage; G, RO

SD-11 Closeout Submittals

Manufacturer's Warranty; G, RO

Contractor's Warranty for Installation; G, RO

1.5 QUALITY ASSURANCE

1.5.1 Pre-Erection Conference

After submittals are received and approved but before canopy system work, including associated work, is performed, the Contracting Officer will hold a pre-erection conference to review the following:

- a. The detail drawings, specifications, and manufacturer's descriptive and technical literature.
- b. Finalize construction schedule and verify availability of materials, erector's personnel, equipment, and facilities needed to make progress and avoid delays.
- c. Methods and procedures related to canopy system erection, including, but not limited to: qualification of manufacturer, qualification of erector, manufacturer's catalog data, manufacturer's building design analysis, written instructions and test reports.

- d. Support conditions for compliance with requirements, including alignment between and erection of structural members.
- e. Flashing, special roofing details, and condition of other construction that will affect canopy system, including coatings and base metals, factory color finish performance requirements, system components, and certificates for coil stock.
- f. Governing regulations and requirements for, certificates, insurance, tests and inspections if applicable.

#### 1.6 PRODUCT ENGINEERING DOCUMENTS

Certification must be prepared and signed by a Professional Engineer with 10 years of continuous experience in canopy design and registered in the state for which the project is being built verifying that structural framing and covering panels meet local loading requirements and codes.

### PART 2 PRODUCTS

#### 2.1 MANUFACTURERS

- A. Basis-of-Design Product: Extruded Aluminum Post Supported Canopy System by Mitchell Metal, Inc. 1761 McCoba Drive, Suite A Smyrna, GA. 30080, Phone: (770) 431-7300, shelley@mitchellmetals.net.

#### 2.2 COMPONENTS

- A. Columns:
  - 1. Radius-cornered aluminum tubular extrusion, size shown on drawings minimum.
  - 2. Radius-cornered aluminum tubular extrusion as required by structural engineered design.
  - 3. Grout Key: Provide two 1-1/2 inch diameter holes in column base, one each in opposite sides.
  - 4. Provide clear acrylic protection coat on surfaces in contact with grout.
- B. Beams: Open top aluminum tubular extrusions.
  - 1. Size: Shown on drawings minimum.
  - 2. Size: As required by structural engineering design.
- C. Deck: Rigid-Roll-Lock extruded aluminum, self-flashing, interlocking sections.
  - 1. Size and Profile: Soffit deck as shown on drawings
  - 2. Size: As required by structural engineering design.
  - 3. Provide welded endplate water dams where sections terminate at other than drainage channels. Sealed or caulked in place dams are not acceptable.
- D. Fascia: Fascia as shown on drawings and as required to complete the installation resulting in a neat finished appearance.
- E. Flashing: Aluminum sheet, thickness as recommended by manufacturer for specific condition.
- F. Struts:
  - 1. Aluminum tubular extrusion of size shown on shop drawings.

- G. Gutter Beam:
  - 1. Size: to accomodate rain fall for this region.

### 2.3 ACCESSORIES

- A. Fasteners:
  - 1. Deck Screws: No. 14 by 1 inch, self-tapping, Type 18-8 stainless steel with neoprene washners.
  - 2. Trim Screws: No. 10 by 1/2 inch, self-tapping, Type 18-8 stainless steel.
  - 3. Trim Rivets: Aluminum, size recommended by manufacturer for specific condition.
  - 4. Other Fasteners: Type 18-8 stainless steel, type recommended by manufacturer for specific condition.

### 2.4 FABRICATION

- A. Shop Assembly: Fabricate cross beams and columns for field assembled and concealed bolted connections.

### 2.5 FINISHES

- A. Bents:
  - 1. Fluoropolymer Coating: 70 percent PVDF resin based fluoropolymer, AA-C-12C-42R-1, Color: White, as selected from manufacturer's standard colors, comply with AAMA 605.
    - a. Two coat application
- B. Deck: (Top and Bottom of Deck)
  - 1. Fluoropolymer Coating: 70 percent PVDF resin based fluoropolymer, AA-C-12C-42R-1, Color: White, as selected from manufacturer's standard colors, comply with, comply with AAMA 605.
    - a. Two coat application
- C. Fascia/Gutter:
  - 1. Fluoropolymer Coating: 70 percent PVDF resin based fluoropolymer, AA-C-12C-42R-1, Color: White, as selected from manufacturer's standard colors, comply with, comply with AAMA 605.
    - a. Two coat application

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Examine footings in which bents will be set. Verify footing locations and elevations comply with shop drawings.
- B. Examine building surfaces to which canopy will connect.
- C. Coordinate with responsible trade to perform corrective work on unsatisfactory footings or surfaces.
- D. Commencement of work by installer is acceptance of existing conditions.

### 3.2 ERECTION

- A. Erect protective covers in accordance with manufacturer's installation instructions.
- B. Set bents plumb, straight, and true to line, adequately braced to maintain position until grout has cured.
- C. Keep aluminum surfaces from direct contact with ferrous metal or other incompatible materials by applying one coat of clear acrylic coating.

### 3.3 CLEANING

- A. Clean surfaces soiled by work as recommended by manufacturer.
- B. Remove surplus materials and debris from the site.
- C. Keep aluminum surfaces from direct contact with ferrous metal or other incompatible materials by applying one coat of clear acrylic coating.

### 3.4 PROTECTION

- A. Protect finished aluminum surfaces from damage due to subsequent construction operations.

### 3.5 FASCIA SECTIONS

Install fascia sections, trim and related accessories per manufacturers specifications for the style of fascia used on this project.

- A. Install screw fasteners with power tools having controlled torque as to not strip screw threads and or damage fascia material.

### 3.6 CLEANING AND TOUCH-UP

Clean component surfaces. Touch up abrasions, marks or minor defects to shop primed surfaces. Stack all waste materials and packaging in appropriate facility. In appropriate facility is not provided, stack material neatly out of the way.

-- End of Section --